

Claims

- [c1] 1.A method of guiding prescription of an medical imaging scan, the method comprising:
launching an imaging application;
determining a plurality of scan parameters of the imaging application;
receiving a scan parameter input;
comparing the scan parameter input to a reference value;
determining a state of validity of a number of remaining scan parameters;
notifying a user of if any state of validity is out of a predefined range for the scan parameter input.
- [c2] 2.The method of claim 1 further comprising determining and suggesting at least one technique for achieving at least one of reduced scan time, increased resolution, increased contrast, increased SNR, and increased coverage.
- [c3] 3.The method of claim 1 further comprising conveying to the user that the scan parameter input is acceptable.
- [c4] 4.The method of claim 1 further comprising automatically updating the number of remaining parameters in response to the scan parameter input.
- [c5] 5.The method of claim 4 wherein notifying further comprises conveying to the user that the remaining number of scan parameters have been automatically updated.
- [c6] 6.The method of claim 1 further comprising conveying to the user that the scan parameter input causes at least one of the remaining scan parameters to be invalid.
- [c7] 7.The method of claim 6 further comprising notifying the user of the at least one remaining invalid scan parameter.
- [c8] 8.The method of claim 6 further comprising prompting the user to either enter a different scan parameter input or update the at least one invalid scan parameter.

- [c9] 9.A method of prescribing imaging data acquisition of a subject, the method comprising:
(A)receiving a user input to initiate a scan session;
(B)determining a plurality of scan parameters specific to the scan session;
(C)heirarchially prioritizing the plurality of scan parameters for the scan session;
(D)repeat steps (A) and (B) for a new scan session; and
(E)re-prioritizing the plurality of scan parameters for the new scan session.
- [c10] 10.The method of claim 9 wherein heirarchially prioritizing includes:
determining a set of primary scan parameters for the scan session;
determining a set of secondary scan parameters for the scan session;
determining a set of tertiary scan parameters for the scan session, wherein a change to one of the set of primary scan parameters may affect at least one of another of the set of the primary scan parameters, one of the set of secondary scan parameters and one of the set of tertiary scan parameters.
- [c11] 11.The method of claim 10 wherein a change to one of the set of secondary scan parameters may affect at least one of another secondary scan parameters and one of the set of the tertiary scan parameters, but may not affect one of the set of primary scan parameters.
- [c12] 12.The method of claim 10 wherein a change to one of the set of tertiary scan parameters may affect another of the set of tertiary scan parameters, but not affect any of the set of secondary scan parameters and any of the set of primary scan parameters.
- [c13] 13.The method of claim 10 further comprising organizing the set of primary scan parameters, the set of secondary scan parameters, and the set of tertiary scan parameters to drive user understanding of physics of the scan session from geometry to timing.
- [c14] 14.The method of claim 10 further comprising displaying the set of primary scan parameters, the set of secondary scan parameters, and the set of tertiary scan parameters on a graphical user interface.
- [c15] 15.The method of claim 14 further comprising enabling modification of a

- displayed scan parameter.
- [c16] 16.The method of claim 15 further comprising displaying at least one consequence of modifying a scan parameter.
- [c17] 17.The method of claim 14 further comprising notifying to a user that modification of a scan parameter causes another scan parameter to be invalid.
- [c18] 18.The method of claim 14 further comprising prompting a user to input a scan parameter value for another scan parameter as a result of the modification of the displayed scan parameter.
- [c19] 19.A computer readable medium having stored thereon a computer program representing a set of instructions that when executed by a computer causes the computer to:
display a graphical user interface (GUI) configured to assist prescription of a medical imaging session;
display a window on the GUI upon receipt of a selection command, the window configured to display a number of modifiable scan parameters;
receive a command to modify a scan parameter;
modify the scan parameter;
determine at least one effect of modifying the scan parameter on another scan parameter; and
display an indication of the at least one effect on the GUI.
- [c20] 20.The computer readable storage medium of claim 19 wherein the computer program has further instructions to determine if the modification to the scan parameter requires a change to the another scan parameter.
- [c21] 21.The computer readable storage medium of claim 20 wherein the computer program has further instructions to determine to what value the another scan parameter should be changed and determine if that value is valid.
- [c22] 22.The computer readable storage medium of claim 21 wherein the computer program has further instructions to automatically change the another scan parameter to the valid value.

- [c23] 23.The computer readable storage medium of claim 20 wherein the computer program has further instructions to display that the another scan parameter has an invalid value on the GUI.
- [c24] 24.The computer readable storage medium of claim 20 wherein the computer program has further instructions to prompt a user to modify the another scan parameter.
- [c25] 25.A medical imaging system configured to initiate an imaging application and acquire imaging data of a subject and reconstruct a diagnostic image of the subject, the system having:
a console configured to facilitate prescribing of a medical imaging scan; and
a computer programmed to:
display a plurality of tabs on the console wherein each tab corresponds to a specific task of the imaging application;
detect a user selection of one of the plurality of tabs;
display on the console a plurality of options associated with the selected tab;
detect user modification of at least one of the plurality of options; and
display on the console if there is any consequence of modifying the at least one of the plurality of options on another option.
- [c26] 26.The medical imaging system of claim 25 wherein the computer is further programmed to determine if the user modification causes a change to a scan parameter, and if so, determine if another scan parameter needs modification.
- [c27] 27.The medical imaging system of claim 26 wherein the computer is further programmed to determine a value by which to change the another scan parameter.
- [c28] 28.The medical imaging system of claim 27 wherein the computer is further programmed to determine if the value is valid, and if so, automatically change the another scan parameter to the value, and if not, display a message on the console that the another scan parameter has an invalid value.
- [c29] 29.The medical imaging system of claim 27 wherein the computer is further programmed to prompt a user to enter a new value for the another scan

parameter.

[c30] 30.The medical imaging system of claim 25 wherein the plurality of options are enclosed in a window, wherein the window is displayed to the right of the plurality of tabs and wherein the plurality of tabs are vertically oriented.

[c31] 31.The medical imaging system of claim 30 wherein the computer is further programmed to display the plurality of tabs and the plurality of options enclosed in the window to facilitate a logical top-bottom and left-right workflow for prescribing a medical imaging scan session.

[c32]

PCT/US2019/033693